

REMARKS

Claims 3, 5-11, and 14-20 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 102

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by JP 02276132. Claims 1-2, 12 and 13 are rejected under 35 U.S.C. § 102(b) as being anticipated by JP 391585. This rejection is respectfully traversed.

Since Claims 1, 2, 12 and 13 are canceled, the rejection under § 102(b) can be traversed.

REJECTION UNDER 35 U.S.C. § 103

Claims 3-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 391585 in view of Vetter et al. (U.S. Pat. No. 5,069,235). This rejection is respectfully traversed.

The amended Claim 3 of the present invention recites repeating the steps of “elevating a liquid surface of the cleaning liquid above an upper portion of the luminous bulb portion” and “lowering the liquid surface of the cleaning liquid below a lower portion of the luminous tube portion”.

The Examiner asserts that cited reference Vetter discloses “repeating the steps of elevating a liquid surface of a cleaning liquid above an upper portion (of a wafer) and lowering the liquid surface of the cleaning liquid below a lower portion (or the wafer)”.

However, the above is not disclosed in Vetter. Vetter merely teaches the combination of “cascading and spraying” for retaining light impurities and “partial dump” for retaining heavy impurities, so as to prevent the wafer to be in contact with the air. Hence, regardless of whether the liquid surface is above or below, the wafer to be cleaned will be in the water during cleaning.

Moreover, the invention of Vetter relates to a wafer cleaning device, and wafer has a simply disc-like shape that is easy to clean. On the other hand, the present invention relates to the cleaning of a luminous bulb portion in a glass tube that does not have a simple shape such as a wafer. According to the present invention, air bubble is easily generated in the internal portion of the glass tube during cleaning. Moreover, once the air bubble is generated, even if the pure water continues to flow in the container, the pure water cannot flow in the internal portion of the glass tube and the internal portion of the glass tube cannot be cleaned. Hence by repeating the steps of “elevating a liquid surface of the cleaning liquid above an upper portion of the luminous bulb portion” and “lowering the liquid surface of the cleaning liquid below a lower portion of the luminous tube portion”, the cleaning liquid can be moves while being in contact with the inner face of the luminous bulb portion, and thus the inner face of the luminous bulb portion can be cleansed.

In addition, according to the present invention, since the luminous bulb portion is generally made of quartz glass, the oxidizing problem encounter in the case of wafer will not occur when the luminous bulb portion is exposed to air.

For the foregoing reasons, the present invention is patentable over the combination of cited reference JP 391585 and Vetter.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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